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User Manual -Eng2Order Suite Version 17

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# UserManual

Eng2Order Suite
Version 17

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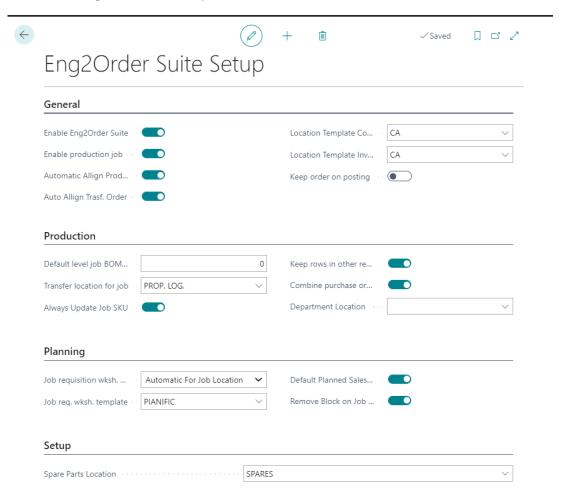
## 1 PREMISE

This document contains a user guide of the Eng2Order Suite App.

## 2 APP SETUP

## 2.1 Setup Eng2Order Suite

In the menu **Eng2Order Suite Setup** there are several items to set:



#### General:

- Enable Eng2Order Suite: ✓
- Enable production job: ✔
- Automatic Allign Prod.Order:
- Auto Allign Transf. Order:
- Location Template Code: CA defines the location template for the creation of job locations where you
  can set up the reference warehouse of the job (grouping all job locations in reference to a single
  location, e.g. BLU location)
- Location Template Inv. Setup: CA defines the location template for the automatic creation of accounting data (warehouse registration setup, warehouse paths)
- Keep order on Posting: ✓ allows to keep the Sales Order after posting the invoice

## **Production:**

- Default level job BOM: 0 the default explosion level of the BOM (0 = all levels)
- Transfer location for Job: PROP.LOG defines the Transfer warehouse for the job
- Always update SKU: ✓ update of SKU settings

- Keep rows in other reports on regenerative MRP: ✓ keeps the lines of the other reports on regenerative MRP
- Combine purchase orders/work account on reference location: ✓ grouping for all locations that have the same reference warehouse if the reference warehouse value is entered
- Department location: Default location for creating Transfer Order from component lines

#### Planning:

- Job requisition wksh. name: Automatic for Job Location
- Job requisition wksh. Template: PIANIFIC
- Default Planned Sales Ord. Lines:
- Remove Block on Job Customer: ✓ allows to change the customer in the order

#### Setup:

Spare Parts Location: SPARES

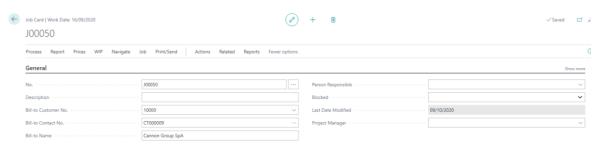
## 3 APP FEATURES

#### 3.1 Job Management

The management process of the Job is divided in the following steps:

- Job creation
- Related master data (items, BOMs, routings)
- Planning
- Query and process of planning results
- Purchase orders
- Transfer orders
- Production orders
- Job situation query
- Creation of sales order
- Shipment and Invoicing

## 3.2 Job Creation



# Main fields of the Job:

No. = in case of new Job proposes an internal number sequence

Bill-to Customer No. = Customer account to bill

With the activation of the Eng2Order APP, a series of additional fields appear in the job:



AspJob Type Code – the choice of a job type allows the automatic compilation of job order tasks
(WBS) starting from the model preloaded on the job type. This pre-compilation also inherits a series of
information necessary for some automatisms (es. C1 – Job with Production, C2- Only Consulting, C3 –
Only Production)

The structure of the job can change depending on the type of job.



Let's see the example for the job type C1 (job with production):



The tasks structure of job C1:



- Job Task Type: only on the analytical tasks it will be possible to link planning lines, while on the Totals
  tasks will be displayed the Totals of task value
- Totaling: Revenue and cost value counters are calculated in Total type lines
- Warranty = Flag that must be filled in for the warranty tasks to be able to ship without charging on the customer.
- Job Task Category Code: fundamental indicator for the correct management of the job flow, if for that task will be used the job location, if it will be managed a Sales order, if it is a budget line.



The Eng2Order Suite app links all business flows (passive, active cycle) with jobs (job that collects all the information about it).

In particular, in the Job Task Categories table are defined the parameters with which the tasks will be created automatically on the job from the procedure for the job:

- Code: Code Category
- Description: task type description
- Job Location Enabled: 

  when will be created a task, inside the job is created a location linked to
  this task
- Line Type: the planning line linked to the task will be a budget type
- Default sales with order: Only Sales With Order the planning line will move with sales order only
- Allign Sales Order: ✓ aligns the sales order, if, for example, the date of the sales order or the delivery date or the quantity, will be changed in the Sales order; this data will be aligned on the planning line and vice versa.

## 3.3 Planning Lines Entry

For each task of the Analytical type, in Job planning lines, it is possible to enter the lines of resource type, services, item, G/L accounts handled for that task/job. In the planning lines it is possible to define whether the sale/invoicing will be managed through the Sales order or by invoicing directly from the job. On the same planning line, one management excludes the other. The lines can be defined according to the following types:

- **Budget** → the item represents a forecast value of cost and / or "potential" revenue, but the line is not billable directly (typical use: costs, activities or materials to be planned for using in the job task;
- Billable → the item represents a forecast value of "billable" revenue per customer and / or "potential"
  cost (typical use: invoicing lines that do not involve a direct acquisition cost or whose cost has been
  entered in separate Budget lines);

■ Both Budget and Billable → in the same planning line the Budget and Billable values are managed simultaneously (typically used for product sales lines with purchase/production and sales management).

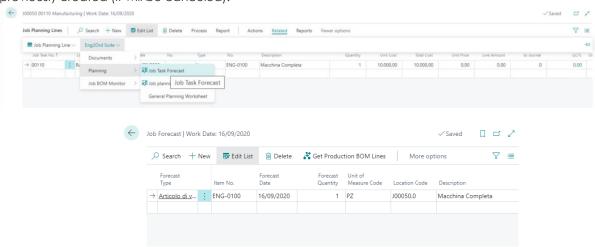


 Example Sales job: in the planning line there will be a line for the materials to send for the job plus any lines of accessory items sold to the customer.



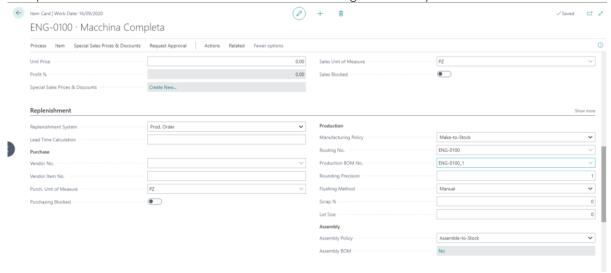
#### 3.4 Creation of the Job forecast

When the planning line of item type is inserted, the forecast is created for the date \ job location \ planning date \ quantity entered in the planning line: **Related** > **Eng2Order Suite** > **Planning** > **Job Task Forecast**. In fact, in the presence of a Sales Order line connected to the planning line, it will have priority over the forecast previously created (it will be canceled).



# 3.5 Related master data (items, BOMs, routings, SKU)

items - there must be present all the items to be included in the planning lines. The item "Macchina Completa" will be linked to the Production BOM and routings created by Technical office.



#### 3.6 Job replenishment system

Job replenishment system (Direct, Consumption, Transfer) is a fundamental indicator for the procurement of the item for the job.

- **Direct** = the requirement will be on the job location and the suggestion of Production or Purchase Orders will be issued directly on the job location
- **Consumption** = the requirement will be on the Base location (BLU), the purchase suggestion and consumption accordingly
- **Transfer** = The requirement will be on the job location, the suggestion is a Transfer order from base location (BLU) to the job location.



In relation to the replenishment system (purchase / production) and management of material movements for job, at the level of item card it is possible to define:

**Direct procurement by Job (Direct)** – this type of item will be consumed / shipped directly from a specific location for each job / task, so it does not require to stock it for adjusting the requirement. Even if there is stock availability, the procurement system (MRP) would not automatically take it into account.

In general, for this type of items there is no automatic consolidation of the requirement for different jobs / Sales Orders, therefore each purchase or production proposal is divided specifically by applicant job / Sales Orders. **Movement:** the receipts will be made directly on the job order location, the consumption of the Production Order components will always be carried out on the job location, the supply to subcontractors of the material (apart the particular case of purchase with direct shipment to subcontractor, to be managed manually in the PO) will be made from the location of the Job.

**Consumption from the base location (Consumption)** – the article foresees a direct consumption from the base warehouse, consequently the requirements are calculated cumulatively and the purchase request will not be specific to the job;

**Movement:** the receipts will concern the base location (stock), the consumption of the Production Order components will always be carried out directly from the base location, the supply to the subcontractors of the material will start with transfers from the base location.

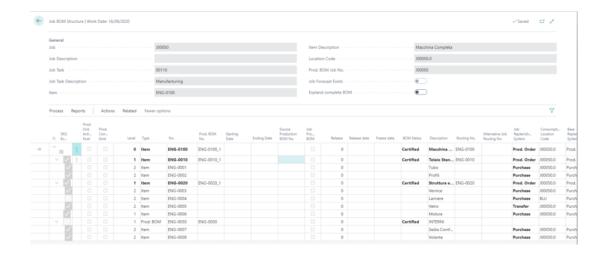
**Transfer** – it is a compromise between the 2 methods indicated above, since on these types of article, it is considered that the direct vendor of the order is the basic warehouse, which receives a request for a transferring for the job. In turn, the main warehouse will proceed with the eventual supply by accumulating the requests and considering the available stock. Once the material has been received in the basic warehouse, the transfers will be carried out, to provide the quantity of item necessary for the single jobs. **Movement:** for the receipts that will concern the base location (stock), the transfer is required to fulfill the transfer orders (between base location and job location), the consumption of the Production Order components will be carried out from the job location, the supply to subcontractors of the material will be performed as a transfers from the job location.

#### 3.7 Job BOM Structure

From the planning line it is possible to access the relevant Job BOM Structure.

The initial BOM explosion level is entered in the Eng2Order Suite setup, it is also possible to perform the explosion up to the last level with the appropriate function if necessary.

The Job BOM Structure allows to query the structure of the BOM:



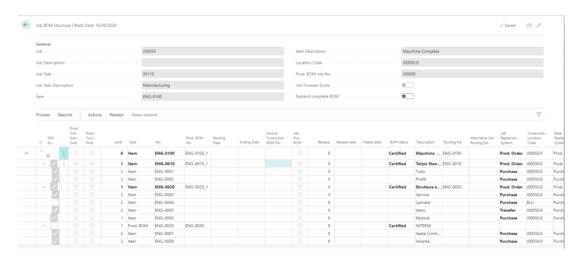
## 3.8 Job SKU

The SKU of item collects all the behavior specifications of that item for that job task (Replenishment System), in addition to the BOM / BOM version and routing for that job task.

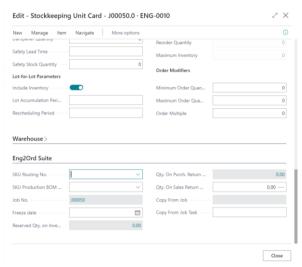
The SKU is created using the appropriate Job SKU Creation function for all the master data whose Replenishment System is set to Direct.

The Job SKU Creation function must be launched at the time of creation and whenever changes are made to the BOMs.

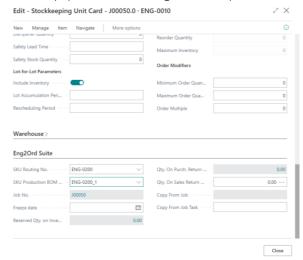
The Stockkeeping unit - must be created using the relative function: Job BOM Structure → Functions → Create Job SKU



In the explosion of the BOM, for each item line, there is a series of information relating to Stockkeeping (SKU BOM, SKU Routing), and some quantity indicators for the item on the location of the job task and on base location. Job BOM Structure  $\rightarrow$  Process  $\rightarrow$  Open Job SKU



It's always possible to change the SKU parameters for the job: SKU Routing, SKU BOM:

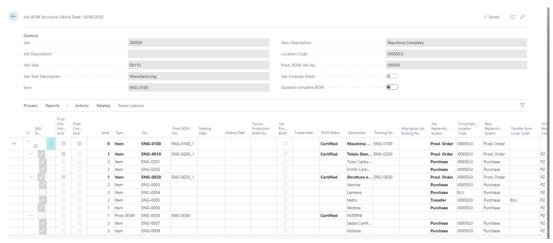


#### Calculates product BOMs differences

By launching the DB Differences Calculation function it is possible to activate the calculation of the differences between the BOM present in the job (in SKU) and that linked to the item, as well as the difference between the job BOM (in SKU) with the components present in any production order in the job.

Click Actions →Functions→Calculates product BOMs differences→Do you want to activate BOM structure calculations? → Yes

The field Diff. Vs Prod. BOM will be filled in with the flag for the item where the BOM and SKU routing was changed

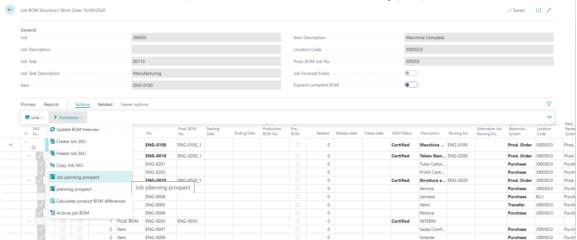


Differences in BOM components can be analyzed: Related →Job →Analysis of components differences:

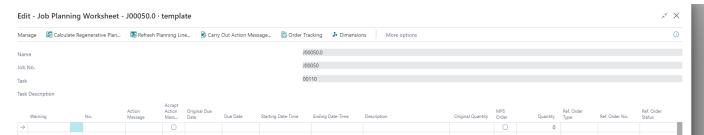


# 3.9 Job Planning prospect

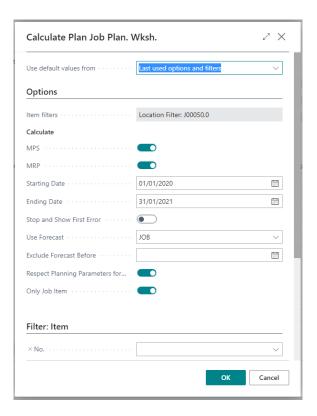
From the Job BOM Structure it's possible to launch the Job Planning prospect.



The planning logic is the same as in the general planning prospect, however it is launched only on the location of the job task and only for the items present in the job.



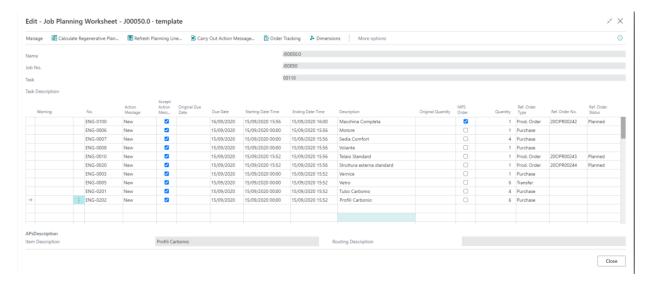
Then the regenerative plan calculation is launched with the following parameters (they must be entered once by user, then they are re-proposed at subsequent launches and at each launch the suggestions already calculated will be eliminated to be calculated again)



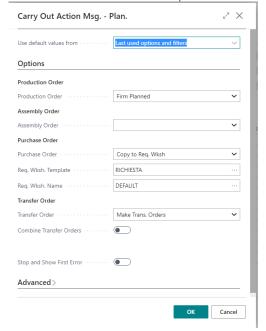
# 3.10 Query and process of planning results

At the end of the calculation, a series of suggested actions will be proposed in the grid:

- <u>Creation of new Transfer Order</u> for all items in the exploded Job BOM that have Transfer as a type of replenishment system (see paragraph 3.6). The proposal suggests transferring the quantities of items required by the job, from the BLU location (main warehouse of the company) to the job location, regardless of the actual stock of this item in the BLU location.
- <u>Creation of new Purchase Order</u> for all items in the exploded Job BOM that have a Direct as a type of replenishment system (see paragraph 3.5), the proposal suggests to buy directly for the job location, ignoring any type of stock-availability in the BLU location.
- <u>Creation of new Production Order</u> for all items in the exploded Job BOM that have a Direct as a type of replenishment system, simplifying the initial state; it concerns all items of Production type.
- Cancellation / rescheduling suggestions suggestions for cancelling transfer or production orders already issued but no longer needed based on the new BOM explosion. Suggestions for variation of delivery dates of purchase or production orders already issued based on the new delivery dates of the item or of new lead times on items / BOMs.



From the Job Planning Worksheet, you can deselect those, which you do not want to process, for the others you intend to process, the **Accept messages** flag must be left. With the **Carry Out Action Messages** button you create the effective transfer, production and purchase orders. The parameters for execution are as follows:



#### Purchase Orders and optimizations:

Each type of proposal of Purchase Order Type, will be queued in the Requisition Worksheet if in Eng2Order Suite setup has the flag **Keep rows in other reports on regenerative MRP = YES**.

# Eng2Order Suite Setup

General	
Enable Eng2Order Suite	Location Template Co CA
Enable production job · · ·	Location Template Inv CA
Automatic Allign Prod	Keep order on posting
Auto Allign Trasf. Order · · ·	
Production	
Default level job BOM (	Keep rows in other re
Transfer location for job PROP. LOG.	Combine purchase or

## Flag Keep rows in other reports on regenerative MRP function

With Flag Keep rows in other reports on regenerative MRP = YES

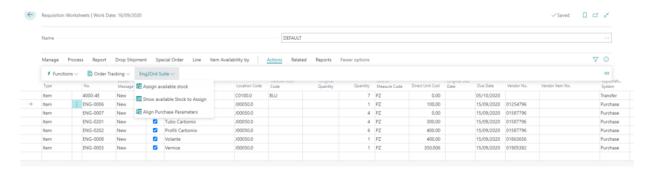
- If the MRP is relaunched on the same location, only the records of the Requisition Worksheet for that location will be deleted
- If the MRP will be launched on another job location, it will keep the records in the Requisition Worksheet from different locations. The new procurement proposals will queue to the records for the other locations.

With flag Keep rows in other reports on regenerative MRP = NO

• If the MRP will be relaunched on the same location, all lines will be deleted, even those of the different location

Inside the Requisition Worksheets, selecting prospect, there are 2 functions to optimize purchases, in addition to another function about to guery the item availability of the selected line.

- Assign available stock
- Align Purchase Parameters



#### Assign available stock

With this function, purchase orders for the job can be transformed into transfer orders (partially or totally), using stocks or purchase orders already issued for the BLU location.

Here are the values taken into consideration:

# DA (Stock assignment available)

Inventory

- safety stock quantity
- quantity on Sales Order
- quantity on Transfer Order Shipment
- quantity on Component lines
- quantity on Purchase Return Order
- quantity in Transfer requests

In case DA is not sufficient, it is calculated the DT (Theoretical availability)

Quantity on Purchase Orders

- + quantity on Production Orders
- + quantity on Transfer Order Receipt
- + quantity on Sales Return Orders

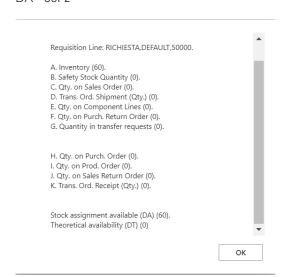
The system uses any availability, absolute or theoretical or partial of these, to totally or partially transform purchase proposals into transfer orders from BLU to the job location

## Show available Stock to Assign

The function Show available Stock to Assign can display for each line selected, the calculation of DA and DT.

For example, let's check the available stock of the item ENG-0007:

DA= 60PZ



Using the function "Assign available stock" it's possible to assign the available stock:



The functionality has completely transformed the purchase order line into a Transfer order from BLU location to the order location.

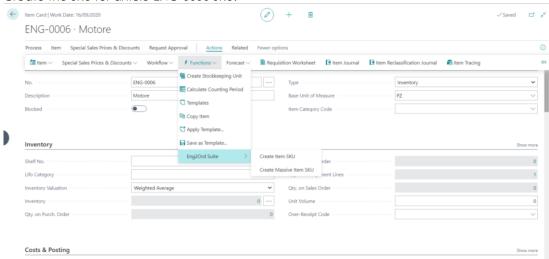
#### **Align Purchase Parameters**

This function allows to validate the requisition worksheet lines remaining after launching the Assign available inventory, and for each item to verify that the following reordering parameters in the relevant SKU of the BLU location are respected:

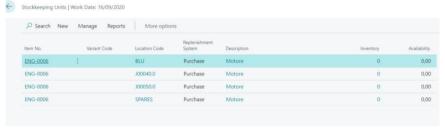
- Lot accumulation Period
- Minimum order quantity
- Order Multiply

The actions foreseen if the parameters are not respected are:

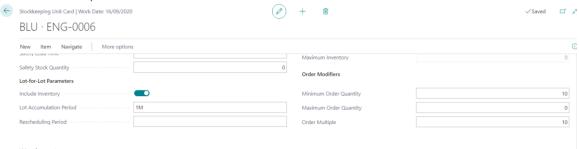
- Advance delivery date of a purchase proposal
- Insertion of new purchase proposal lines for compliance with the minimum and multiple order Let's see how the "Align Purchase Parameters" works for item ENG-0006:
- 1. Create the SKU for article ENG-0006 SKU:



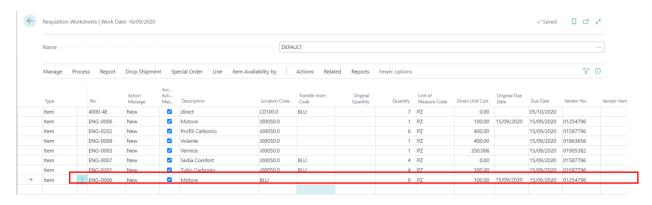
2. SKUs will be created for the location of the main warehouse (BLU) and SKU for spare parts:



3. The reorder parameters in the relevant SKU of the BLU location will be defined:



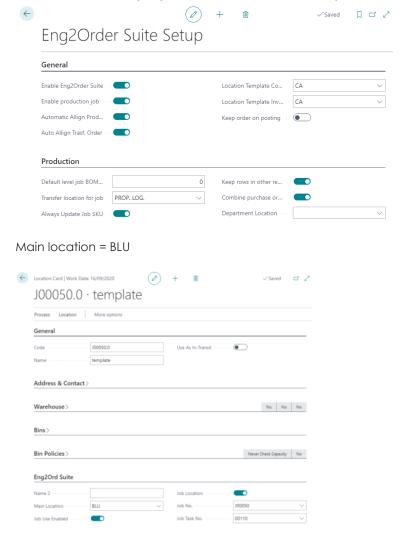
4. Launch the "Align Purchase Parameters" function for item ENG-0006:



Outcome: Insertion of a new purchase line (9 PCS) for compliance with the minimum (10 PCS) and multiple (10 PCS) order for the item ENG-0006.

# Setup combine purchase orders

According to the Setup Eng2Order Suite (Combine purchase orders/subcontracting orders on reference location, it is possible to generate combined purchase orders by reference location (the reference location is a field added in the locations tab, with which it is possible to define, for example for the job locations, which refer to the Base location (BLU), to allow combine the orders).



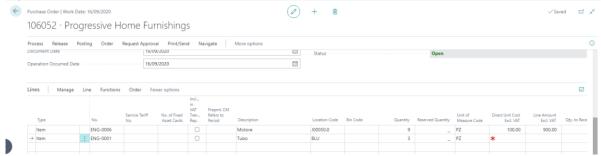
#### Example:

Two procurement requests were created for the location of the J00050.0 job with the reference warehouse BLU:



Release the purchase orders Process→Carry Out Action Massages

A purchase order has been created with two lines:



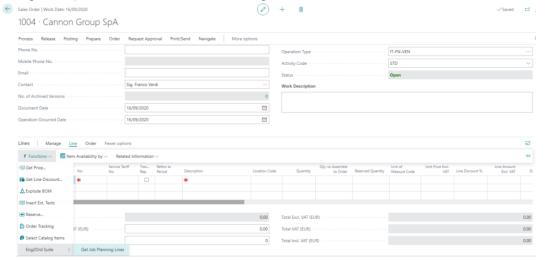
#### 3.11 Production Order

The production order management functions (maintenance, status changes, output recording and consumption recording) remain unaffected by the Eng2Ord App.

#### 3.12 Issue of a sales order

The compilation of a sales order relating to an order remains unchanged from the point of view of entering of the data in the document header.

The lines of the document, on the other hand, must be entered by choosing the planning lines of the order through the specific function **Get Job Planning Lines**:



Only the job planning lines of the client filled in the Contact of the Sales Order header will be pre-filtered, although it is possible (by removing the filter) to choose jobs of different customers (See Setup Eng2Ord **Remove Block on Job Customer**)

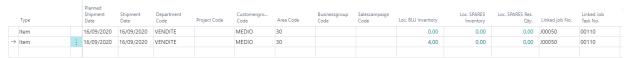
Pay attention to this type of sales orders, the proposed location must be the location of the job - task.



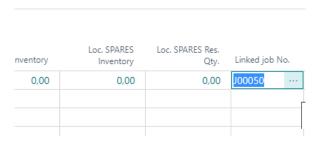
The lines inserted will be taken into consideration by the planning only if they have been made plannable through the appropriate Flag **Able to plan** 

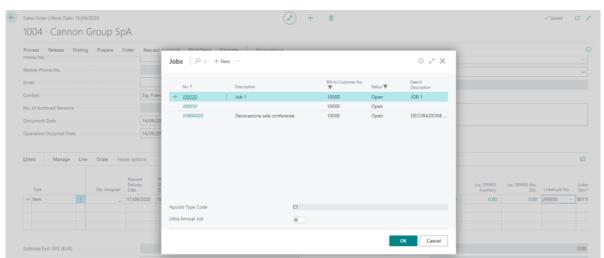


It is possible to add items (for example transport) linked to a job even if they are not foreseen in the planning lines, by manually inserting in the lines in "Linked job No." and the "Linked Job Task No."

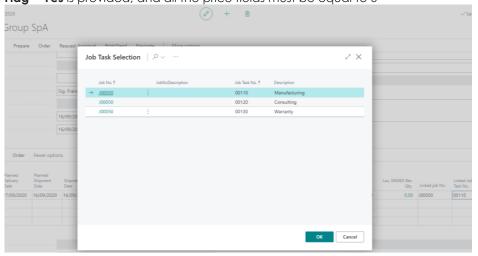


Using the arrow, you can choose all the open jobs for the customer of the sales order.





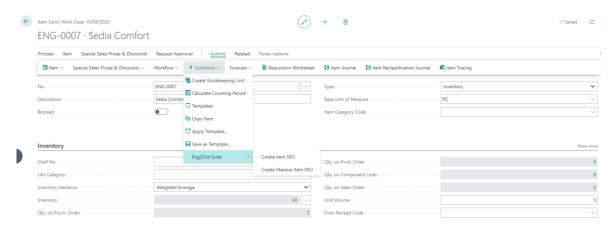
In the case of an item to be sent under warranty, then it will be necessary to choose a task for which the **Warranty** Flag = Yes is provided, and all the price fields must be equal to 0



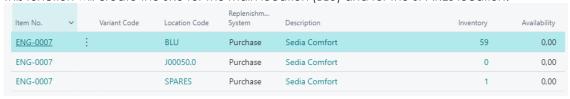
## 3.13 Issue of a spare parts sales order

The process of creating of a sales order for spare parts is the same as that used for creating a sales order Pay attention to this type of orders, the proposed location must be SPARE and the related job order and task will be indicated.

In the Item Card there is the function of creating SKUs, to be launched on all the articles created.



This function will create the SKU for the main location (BLU) and for the SPARES location.



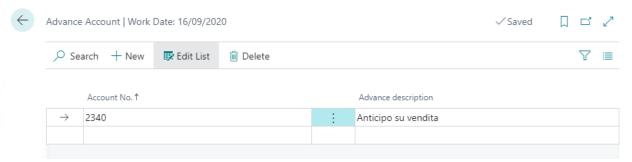
The SPARES location will be created with the Replenishment system = Order, in order to maintain the link between the Sales Order and the supply of the material (purchase order or production order) despite not having a job order location for this Task. These procedures are part of BC standard functioning. The lines inserted will be taken into consideration by the planning only if they have been made plannable through the appropriate Flag "Able to plan".

## 3.14 Management of Invoicing Sales Prepayments

The sales prepayments are entered in the body of the sales order using a service-type item code (with offset account type balance sheet):

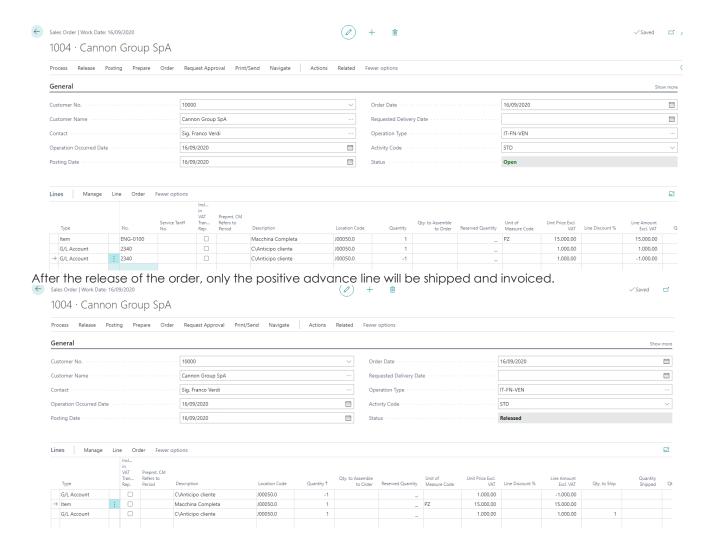
- You will have a line or more lines with a positive amount specifying the relative delivery date (invoicing), and the same lines with a negative amount with the delivery dates of the sales invoice, in addition to the actual items sold:
- This will allow you to always have the situation of the invoicing of prepayments, also scheduled in time, and a timely control of the account balance.
- The authorization process for billing the prepayments is similar to a real shipment
- This shipment will be transformed into an invoice for the prepayment amount.

To manage the prepayments, it is necessary to set up the advance accounts in the relative table:



Subsequently, the sales order will be created with the insertion of an item line and two of C/G Account lines (one positive and the other of the same negative amount for how many advances):

As an alternative to the ledger account, a service item that points to the advance account can be used.



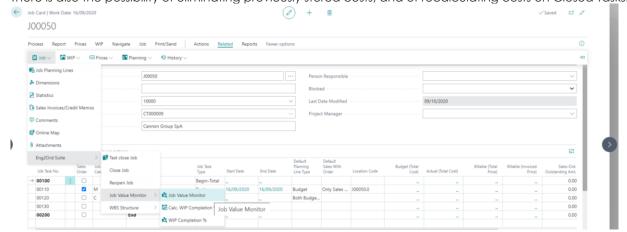
#### 3.15 Job Value Monitor

Regarding to the values handled on the job, the Job Valuation Monitor is used, which can be opened from the job list page, within the job form.

# 3.15.1 Calculate monitor

The Calculate Monitor function allows you to launch the costs "on the date" and stores the movements declared on the job totaling by month.

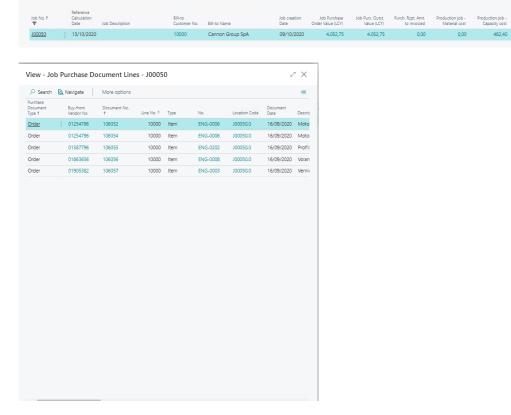
The calculation takes place by job task, but subsequent queries can be made both by job and by job/ task. There is also the possibility of eliminating previously stored costs, and of recalculating costs on Closed Tasks.



#### Job Value Monitor:

The data which is displayed will be memorized from the last launch of calculation, reporting the calculation reference date and each Job\Task progressive, by value, handled on the job. Some costs show the expected value (before posting) or the actual value (after posting).

4.052.75



All the progressives are displayed on the grid, while in the section on the left they are grouped and totaled in different dashboards:

Sales Value: Values in Sales Orders, Sales Return Orders, Billable Planning Lines

Production costs: WIP situation of production divided into material, internal hours paid, returns from subcontracting

Job Direct costs: Costs charged directly from posting on job, divided into material, internal hours paid, C/G accounts

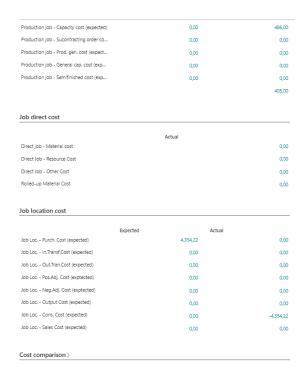
Job location costs: Inventory value present in job location, total sorted by job location, total order outstanding on location

Job Value Monitor WIP FactBox - Job	
Sales Value	
Sales value (LCY)	0,00
Sales Shpd. Not Inv. Value (LCY)	0,00
Sales Ret. Rcpt. Not Inv. Val.(LCY)	0,00
Sales Invoiced Value (LCY)	0,00
Prepayed Sales Value (LCY)	0,00
Prepayed to reverse Sales Value (LCY)	0,00
Schedule cost	
Resource (Cost) (LCY)	0,00
Item (Cost) (LCY)	10.000,00
G/L Account (Cost) (LCY)	0,00
Production Cost	
Material Cost	4.354,22
Capacity cost	486,00
Subcontracted cost	0,00
Mfg. Overhead Cost	0,00
Cap. Overhead cost	0,00
Job Item cost	0,00
Used capacity (hours)	405,00
Job Direct Cost	
Material usage cost	0,00
Purch. Rcpt. Amt. to Invoiced	4.354,22
Resource usage cost	0,00
Other usage cost	0,00
Used Resource (Hours)	0,00
Job Location Cost	
Inventory value	0,00
Job Purchase Order Value (LCY)	4.354,22
Job Purc. Outst. Value (LCY)	0,00
WIP Profit	
Profit Value	-4.840,22
Drofit 94	n

Job Value Monitor Act. FactBox - Job				
Sales value				
Sales Invoiced Value (LCY)	0,0			
Prepayed Sales Value (LCY)	0,0			
Prepayed to reverse Sales Value (LCY)	0,0			
Sales (COGS)	0,0			
Job direct cost				
Rolled-up Material Cost	0,0			
Purch. Rcpt. Amt. to Invoiced	4.354,2			
Rolled-up Capacity Cost	0,0			
Rolled-up Capacity Cost	0,0			

# **Monitor Detailed**

Through this function you can see the calculated data summed up by thematic sections



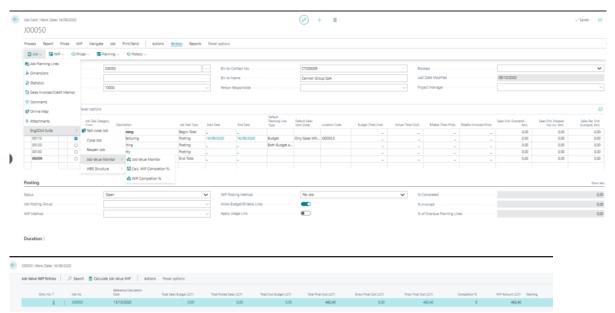
# 3.15.2. Job value monitor period

Through this function it is possible to inquiry the order values divided into monthly periods

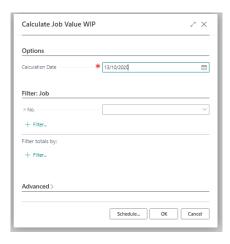


# 3.15.3. Calculate WIP % di completion

The percentage progress of the job can be found in the following path: Related →Job →Eng2Ord Suite→ Job Value Monitor → Wip Completion %



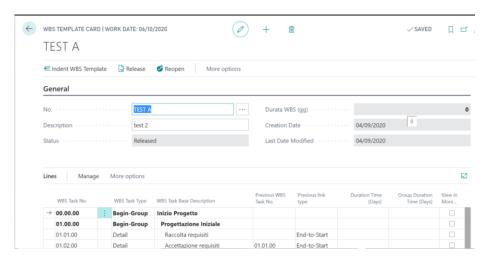
The date on which the calculation is made must be entered:



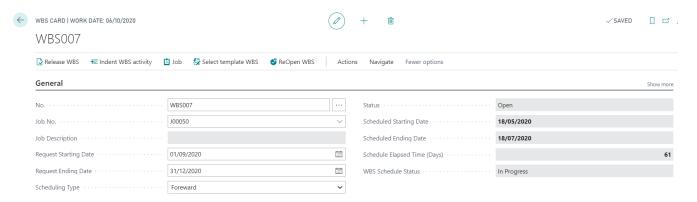
# 3.16 3.16. WBS and order phase scheduling

It is essential to keep the timing of the order under control in all its phases, even those not strictly of managerial impact (design and production).

In this regard, in BC it is possible to link a WBS to each job including the milestones whose progress the PM wants to monitor. You can create multiple WBS Templates to duplicate their details and then customize them for each job



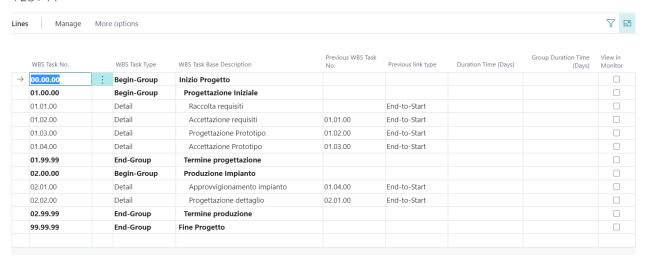
In the WBS header there are some planning data of the total job, some of which (for example, the Scheduled Elapsed time in days) will be displayed as the sum of the values indicated in the individual detailed tasks.



Based on the type of schedule (forward or backward), the requested start and end date, estimated days in the tasks in detail, at the release of the WBS the planned start-end dates for each individual task will be proposed.

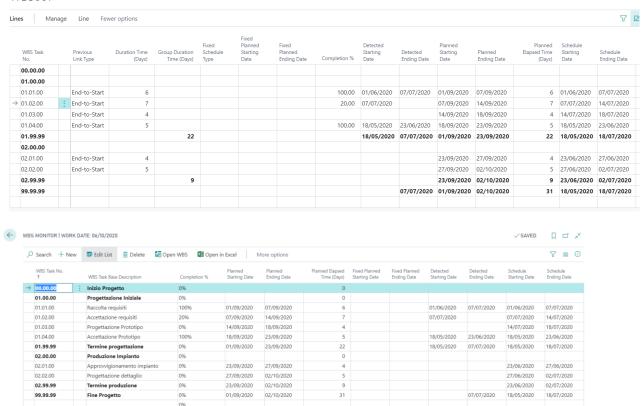
The PM will be able to fill in the percentage of completion in detail (in case of indication of the Effective end date, 100% will be considered by default). It is also possible to determine how much detailed you want to see the WBS structure monitor:

#### TEST A



The result of these insertions will be the ability to view the progress of the job through the WBS Monitor:

#### WBS007



# 4 APP SUBSCRIPTION

Each App functionality requires a valid subscription.

With the first installation, the system activates automatically a trial period.

At the end of the trial period is possible to subscribe a product level (functionality) using the Alterna Apps or directly from the system notifications, by clicking on the link that will open the product activation wizard.